

COMPLETE LISTING OF ALL OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-7 (previously canceled)

Claims 8-12 (previously canceled)

Claim 13 (currently amended): An assembled substrate, comprising

a substrate having a first side and a second side, and a first electrical contact area on said first side and a second electrical contact area on said second side;

an electrical component having a plurality of leads electrically connected to said first electrical contact area of said substrate; and

a capacitor plate electrically connected to said second electrical contact area on said second side of said substrate substantially opposite said first electrical contact area of said substrate, wherein the first electrical contact area is separated from the second electrical contact area by the substrate;

wherein said second electrical contact area on said second side of said substrate is used for In-Circuit Testing;

~~wherein said capacitor plate is connected to said second electrical contact area after In-Circuit Testing through said second electrical contact area has been performed on said substrate while said electrical component is connected to said substrate.~~

Claim 14 (Original): The assembled substrate of claim 13, wherein said assembled substrate further comprises:

a first interposer between said component and said first electrical contact area on said first side of said substrate; and

a second interposer between said capacitor plate and said second electrical contact area on said second side of said substrate.

Claim 15 (previously presented): The assembled substrate of claim 14, wherein said first interposer and said second interposer are chosen from a group consisting of: a socket, or a conductive elastomeric material.

Claim 16 (previously presented): The assembled substrate of claim 13, wherein said substrate is chosen from a group consisting of: a PCB, an MCM, and a flexible substrate.

Claim 17 (previously presented): The assembled substrate of claim 13, wherein said component is chosen from a group consisting of: an LGA component, or a BGA component.

Claim 18 (Original): The assembled substrate of claim 13, wherein said capacitor plate has a plurality of layers of dielectric material separating a plurality of layers of conductive material.

Claim 19 (previously presented): The assembled substrate of claim 13, wherein said capacitor plate comprises:

a plurality of conductive power planes; and

a plurality of conductive ground planes, wherein said plurality of conductive power planes and said plurality of conductive ground planes are separated by one or more dielectric layers including a dielectric layer chosen from the materials comprising at least one of: FR4, a resin, an elastomeric material, or a ceramic.

Claim 20 (original): The assembled substrate of claim 13, wherein said capacitor plate is attached by solder to said second electrical contact area on said second side of said substrate.

Claims 21-29 (previously canceled)

Claim 30 (previously withdrawn): The assembled substrate of claim 13, wherein the capacitor plate is fabricated by a method comprising: estimating a capacitance for the capacitor plate; creating an electrical model of the capacitor plate as assembled on the substrate; determining if the electrical model predicts that the capacitor plate provides the required decoupling capacitance for contact pads under the electrical component; estimating a new capacitance for the capacitor plate, if the capacitor plate does not provide the required decoupling capacitance; building a prototype of the capacitor plate; assembling the capacitor plate on the substrate; and testing if the capacitor plate provides a correct capacitance after assembling the capacitor plate on the substrate.

Claim 31 (previously withdrawn): The assembled substrate of claim 13, wherein the capacitor plate is fabricated by a method comprising: estimating an initial required

capacitance for a plurality of contacts on the capacitor plate; modeling the capacitor plate as assembled on the substrate; estimating a more precise required capacitance for a plurality of contacts on the capacitor plate after modeling the capacitor plate; and fabricating the capacitor plate according to the more precise required capacitance for the plurality of contacts.

Claim 32 (previously presented): The assembled substrate of claim 13, further comprising: a clamp for clamping the capacitor plate and the component to the substrate.